Pixi
MATHS

🖩 Calculator allowed

1) (a) Work out the size of angle *x*.

Not drawn accurately

11 cm

8 cm

x
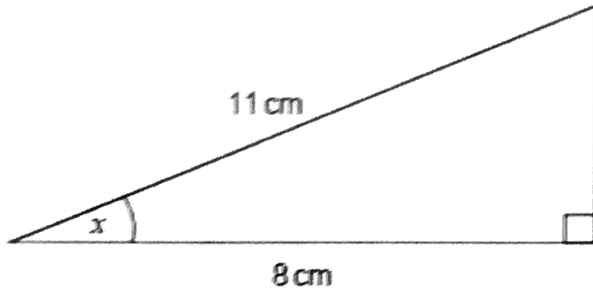
$$\cos^{-1}\left(\frac{8}{11}\right) = 43.3 \ (1 dp)$$

Answer .... 43.3 ....degrees

(2)

(b) Work out length *y*.
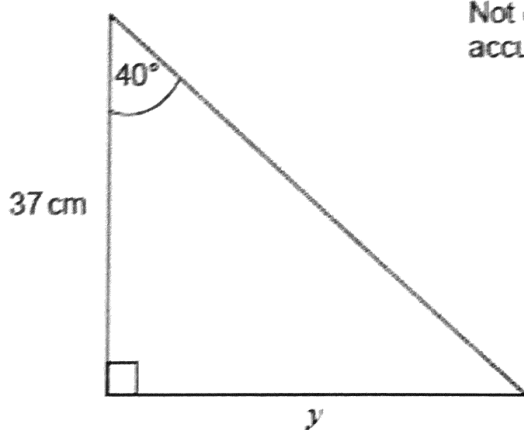
Not drawn accurately

40°

37 cm

y

$$\tan 40 \times 37 = 31.05 \ (2 d.p.)$$

Answer .... 31.05 ....cm

(2)
(Total 4 marks)

2) In the triangle, angle y is obtuse.
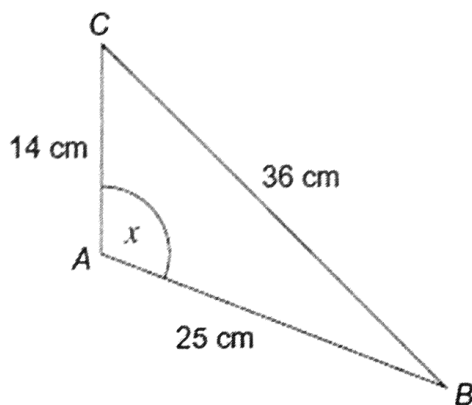
Not drawn accurately

16 cm

10 cm

y

34°
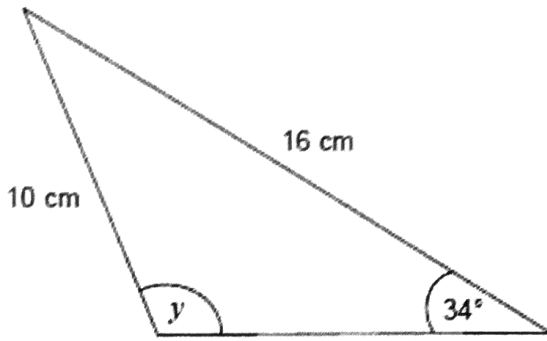
Work out the size of angle y

$$\frac{\sin y}{16} = \frac{\sin 34}{10}$$

$$y = \sin^{-1}\left(\frac{16 \sin 34}{10}\right) = 63.5 \ (1 \ d.p.)$$

Answer .... 63.5 .... degrees

(Total 3 marks)

3) Work out the size of angle x. Not drawn accurately
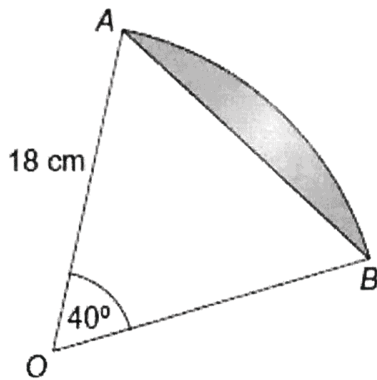
C

14 cm

36 cm

x

A

25 cm

B

$$\cos x = \frac{14^2 + 25^2 - 36^2}{2 \times 14 \times 25}$$

$$x = 132.7 \ (1 \ d.p.)$$

Answer .... 132.7 .... degrees

(Total 3 marks)

4) . The diagram shows a sector of a circle, centre O, radius 18 cm. Not drawn accurately.
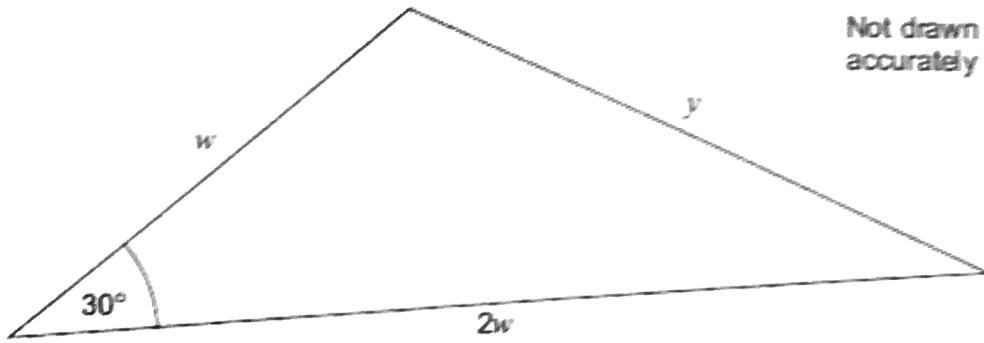
A

18 cm

B

40°

O

Work out the area of the shaded segment.

Area of sector $= \frac{40}{360} \times 18^2 \times \pi = 36\pi$

Area of triangle $= 0.5 \times 18^2 \times \sin 40 = 104.13...$

Shaded area $= 36\pi - 104.13... = 8.97$ (2 d.p.)

Answer ....8.97.. cm²

(Total 5 marks)

5) The area of this triangle is 18cm²

Not drawn accurately

Work out *y*.

$18 = \frac{1}{2} \times 2w^2 \times \sin 30$

$18 = \frac{1}{2} w^2$

$36 = w^2$

$6 = w$

$12 = 2w$

$y^2 = 6^2 + 12^2 - 2 \times 6 \times 12 \times \cos 30$

$y = 7.44 \ (2 \ d.p.)$

y = ...7.44................ cm

(Total 5 marks)

(Total for test = 20 marks)